

**REMARKS**

Claims 1-32 are all the claims pending in the application. Claims 12-32 are withdrawn from consideration. Claims 1-11 are rejected.

Claims 1, 3, 4, 7, and 8 have been canceled. Claim 2 has been amended to recite that “m and n represent a composition ratio of the  $\pi$ -conjugated copolymer and satisfy the conditions of  $m+n=1$  and  $0.05 \leq m \leq 0.1$ ”. Support is found, for example, in Examples 5, 14, 16, and 17 shown in Table 3 of the specification as filed. In particular, the ratio of the thiophene unit and pyrrole unit is from 90:10 to 95:5 (molar ratio).

Withdrawn claim 12 has been amended to expressly recite the features of canceled claim 1, which was incorporated by reference. Claims in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim. 37 C.F.R. § 1.75(c). Further, withdrawn claims 20 and 22 have been amended to correct dependency.

No new matter has been introduced. Entry and consideration of the amendments are respectfully requested.

**Response to Claim Rejections - 35 U.S.C. § 102**

A. On page 2 of the Office Action, claims 1-7, 9, and 11 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Naitoh et al. (U.S. Patent No. 4,769,430).

B. On page 3 of the Office Action, claims 1, 3-4, and 7-8 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Feldhues et al. (U.S. Patent No. 5,093,033).

C. On page 3 of the Office Action, claims 1-11 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Jonas et al. (U.S. Patent No. 4,959,430).

D. On page 4 of the Office Action, claims 1-7, 9, and 11 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Naarmann et al. (U.S. Patent No. 4,568,483).

First, none of Naitoh et al., Feldhues et al., and Naarmann et al. disclose the condition of  $0.05 \leq m \leq 0.1$ . Amended claim 2 recites that “m and n represent a composition ratio of the  $\pi$ -conjugated copolymer and satisfy the conditions of  $m+n=1$  and  $0.05 \leq m \leq 0.1$ ”.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Reconsideration and withdrawal of the rejections over Naitoh et al., Feldhues et al., and Naarmann et al. are respectfully requested.

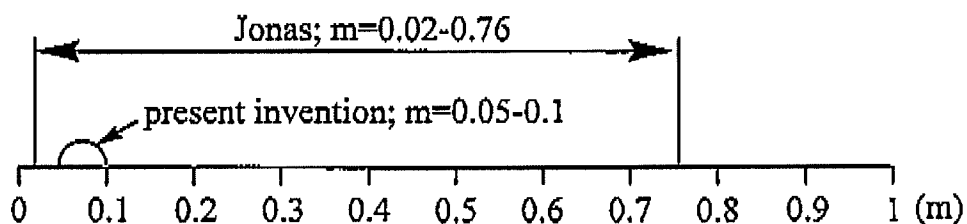
Second, Jonas does not disclose with sufficient specificity to constitute an anticipation under § 102. The Examiner states that Jonas discloses a  $\pi$ -conjugated copolymer of polythiophene-pyrrole having 65-98 mol% of a thiophene unit and 2-35 mol% of a pyrrole unit. Jonas mentions that the thiophenes of Jonas can be copolymerized with pyrrole and that the mechanical properties of the polythiophene films can be improved without any adverse effect on their advantageous electrical properties if the thiophenes are copolymerized with a specific amount of pyrrole. However, Jonas shows no Example where pyrrole is copolymerized, and Jonas shows no specific examples falling within the claimed range (satisfying the conditions of  $m+n=1$  and  $0.05 \leq m \leq 0.1$ ).

According to calculations by Applicants, a  $\pi$ -conjugated copolymer of polythiophene-pyrrole of Jonas has 24-98 mol% of a thiophene unit when 3,4-ethylenedioxythiophene unit is used and has 2-76 mol% of a pyrrole unit ( $0.02 \leq m \leq 0.76$ ).

That is, Jonas only describes a considerably broad range of values and does not verify the effects. Neither does Jonas disclose an example within the claimed range. According to Office procedure, if claims are directed to a narrow range, and a reference teaches a broad range, it may

be reasonable to conclude that the narrow range is not disclosed with “sufficient specificity” to constitute an anticipation of the claims. See MPEP 2131.03.II.

In one case, the Federal Circuit held that a reference temperature range of 100-500 degrees C did not describe the claimed range of 330-450 degrees C with sufficient specificity to be anticipatory (*Atofina v. Great Lakes Chem. Corp*, 441 F.3d 991, 999, 78 USPQ2d 1417, 1423 (Fed. Cir. 2006)). In the present case, the broad range of Jonas does not disclose with sufficient specificity of the claimed range, as shown graphically below.



Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

#### **Response to Claim Rejections - 35 U.S.C. § 103**

A. On page 5 of the Office Action, claims 2, 5-6 and 9-11 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Feldhues et al. in view of Naitoh et al.

B. On page 6 of the Office Action, claims 8 and 10 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Naitoh et al. in view of Jonas et al.

C. On page 7 of the Office Action, claims 8 and 10 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Naarmann et al. in view of Jonas et al.

As stated above, none of Naitoh et al., Feldhues et al., and Naarmann et al. disclose the condition of  $0.05 \leq m \leq 0.1$ . Amended claim 2 recites that “m and n represent a composition ratio of the  $\pi$ -conjugated copolymer and satisfy the conditions of  $m+n=1$  and  $0.05 \leq m \leq 0.1$ ”. Jonas does not cure the deficiencies of the cited references in this regard.

All claim limitations must be taught or suggested to establish *prima facie* obviousness. MPEP 2143.03.

Further, the present invention enables obtaining a capacitor being excellent in initial properties by employing the polymerization condition of  $0.05 \leq m \leq 0.1$  as is clear from Table 4 of the present specification. Specifically, from the comparison of Examples 5, 14, and 15 where only the condition of  $m$  is different, the capacitor obtained under condition of  $m=0.1$  (Example 5) and that obtained under condition of  $m=0.05$  (Example 14) are superior to that obtained under condition of  $m=0.3$  (Example 15) in properties such as capacitance, loss factor, impedance and leakage current. Such excellent properties are evidence of unexpected results relative to the prior art. In the context of the broad range of a cited reference, evidence of unexpected results within the narrow claimed range may also render the claims unobvious. MPEP 2131.03.II.

One of ordinary skill in the art considering the disclosure of Jonas would not have expected the effects of improving the above-mentioned capacitor initial properties by copolymerizing thiophene with pyrrole by a ratio within the range as defined by the present invention.

For at least these reasons, reconsideration and withdrawal of the rejection are respectfully requested.

In view of the above, allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111  
Application No.: 10/573,415

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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